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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,327	02/28/2002	Yasushige Nakamura	000738a	8134

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ARMSTRONG, WESTERMAN & HATTORI, LLP  
1725 K STREET, NW.  
SUITE 1000  
WASHINGTON, DC 20006

EXAMINER

RODEE, CHRISTOPHER D

ART UNIT PAPER NUMBER

1756

DATE MAILED: 09/11/2002

6

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-6

<b>Office Action Summary</b>	<b>Application No.</b> 10/084,327	<b>Applicant(s)</b> NAKAMURA ET AL.	
	<b>Examiner</b> Christopher D RoDee	<b>Art Unit</b> 1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 August 2002.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 9,11 and 13-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9,11 and 13-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

Claims 9, 11, and 13-32 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The instant claims have been amended to specify the basis of the molecular weight as "weight-average" for the toner components with molecular weights between 500 and 1000. Applicants state that it is standard in the art that molecular weight is weight based unless stated otherwise.

Initially the Examiner cannot find basis in the specification as filed that the basis for molecular weight determination of the component is "weight-average". Applicants do not allege that basis is present in the specification. There is also no evidence of record to substantiate applicant's position that a molecular weight determination is "weight-average" unless otherwise specified. The Examiner is unaware of this "standard" in the art. If there is basis for such a conclusion, particularly for a component of a toner having the noted molecular weight range, applicants are asked to submit such evidence. Lacking anything more than the statement made in the response to the rejection is seen as proper.

The previously applied rejection over claim 21 concerning the mole percentage is withdrawn based upon applicants' remarks in combination with the guidance provided by *In re Wertheim*.

The previously applied rejection concerning the meaning of "HEPA" in claim 22 is overcome based upon the consistent definition of the acronym in Takiguchi's US Patent 6,191,843 (col. 5, l. 47).

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Claims 9, 11, and 13-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear in the method claims if the binder is a binder resin (see spec. p. 4, l. 23) or some other binder component (e.g., an alloy, wax, etc.). It is suggested that the claim specify that the binder is a "binder resin".

It is unclear in the apparatus claims how the "supply of toner" is structurally related to the other components of the apparatus. The toner is apparently not present in any specific means or unit of the apparatus. Rather, there is a supply of the toner (e.g., in a bottle). Applicants are respectfully reminded that an apparatus is defined by its structural components not the materials worked on or used (and consumed) by the apparatus. See MPEP § 2172.01.

Claims 15 and 25 are also indefinite because it is unclear what amount of the group R is ethylene. The claim states that up to 60 mol % or more of the alcohol component have R as ethylene. This appears to include all values up to 60 mol % but also values more than 60 mol %. In effect, the claim may permit any amount R as ethylene. The limitation is confusing because it is unclear if applicants are limiting the amount of ethylene in R to up to 60 mol % or include some other value(s) larger than 60 mol %.

#### ***Claim Rejections - 35 USC § 102***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 11 and 23-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Hirao *et al.* in US Patent 6,175,715.

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This reference was applied against claim 11 in the last Office action. In response to the rejection applicants have specified that the apparatus contains "a supply of toner". Claims 23-31 provide specific limitations on the characteristics of the toner.

Applicants take the position that the amendment to the claims that specifies a supply of the toner overcomes the previous rejection. The Examiner cannot agree because it is unclear how the toner is structurally integrated into the apparatus as discussed in the § 112, second paragraph, rejection above. Even if the toner were properly set forth as a component of the apparatus it is still a material acted upon by the apparatus. It is consumed as a necessary part of the apparatus's operation. Once the toner is consumed the apparatus still exists with the requisite image forming unit, flash fixing unit, and filter. A supply of toner does not define over the art because the structure of Hirao's apparatus is the same as structure in the instant claims. Applicants have not specified those structural features that are different in the instant claims versus those structural features in Hirao.

The new limitations on the toner do not provide a patentable limitation over the apparatus of Hirao because the structure is the same.

The rejection is maintained and extended for the reasons of record and the reasons given above.

### ***Claim Rejections - 35 USC § 103***

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirao *et al.* in US Patent 6,175,715 in view of the admitted art.

Hirao was discussed above. The reference does not specify that a high efficiency particulate air filter was used to collect the smoke, odor, and high molecular weight organic substances as filter **82**. However, the admitted art in the recent response states that HEPA

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filters are known (i.e., "well established") in the art to collect 99.97% of the particles up to one micron in size.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a HEPA filter as the filter **82** in Hirao because Hirao desires a filter that will collect the noted compounds and HEPA filters are well known in the art to be extremely effective at collection of particles up to a micron in size. Such sizes would appear to include smoke and high molecular weight organic substances.

Claims 9, 13, 19, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 7-244400 in view of *Handbook of Imaging Materials* to Diamond, pp. 160-162, and further in view of *Electrophotography* to Schaffert, pp. 55-57, still further in view of JP 5-107805, and finally in view of the admitted art.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 7-244400 in view of *Handbook of Imaging Materials* to Diamond, pp. 160-162, further in view of *Electrophotography* to Schaffert, pp. 55-57, still further in view of JP 5-107805 and in view of the admitted art as applied to claims 9, 13, and 19 above, and still further in view of Inaba *et al.* in US Patent 5,741,617.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 7-244400 in view of *Handbook of Imaging Materials* to Diamond, pp. 160-162, and further in view of *Electrophotography* to Schaffert, pp. 55-57, still further in view of JP 5-107805, and in view of the admitted art, as applied to claims 9, 13, and 19 above, and still further in view of Fukuzawa *et al.* in US Patent 6,052,940.

In response to these rejections (see response pp. 11-12 & 16) as previously set forth applicants have amended the claims to specify an additional step of collecting with a filter a

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sublimate of a binder of the toner caused by flash fixing. The background section of the art in the instant specification (pp. 2-3) states that sublimation of the toner binder resin occurs in flash fixing processes and references JP 5-107805, newly cited with this rejection. The background section also states the filter in high-speed flash fusing printers becomes clogged with sublimate, indicating that it is conventional to collect sublimate in flash fusing devices (p. 3, bottom).

Thus, in addition to the reasons for holding obviousness in the last Office action, it would have been obvious to one having ordinary skill in the art at the time the invention was made to collect a sublimate of the toner binder resin because the background section states that this is a conventional feature of flash fusing processes.

With respect to the grounds of rejection previously set forth, applicants traverse the rejection because there is not sufficient motivation to use the specific toner in the specific process using flash fusing. Applicants acknowledge that JP reference toner is excellent in preventing scattering and appear to recognize that Schaffert teaches that judicious choice of flash fusing wavelength will prevent fusing of any scattered toner particles. However, this appears to applicants to arrive at no more than an obvious-to-try approach, which is not sufficient to properly lodge a § 103 rejection.

The Examiner has carefully considered these remarks and the new limitations in the claims but must maintain the rejection. The JP reference is specifically concerned with avoiding toner scattering while Schaffert teaches that flash fusing is known in the art to avoid fusing of any scattered toner particles to paper. The references are clearly concerned with similar issues. The disclosure of these similar issues is sufficient to motivate the combination of flash fusing in an imaging process with the toner of the JP reference. This is not an obvious-to-try approach, as the artisan would have found it obvious to combine references that have common concerns. An additive effect would have been expected as there would be less scattered toner using the

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toner of the JP reference while any toner that did scatter would not have been expected to form fog if using a flash fusing system.

The traversal of the specific rejections over claims 16 and 17 are based on the same traversal as that for claim 9. The Examiner's remarks are therefore seen as equally applicable to claims 16 and 17. The rejection is proper and is maintained.

Claims 9, 13, 18, 19, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 10-198068 in view of *Handbook of Imaging Materials* to Diamond, pp. 160-162, and further in view of *Electrophotography* to Schaffert, pp. 55-57, still further in view of JP 5-107805, and finally in view of the admitted art.

In response to this rejection as previously set forth applicants have amended the claims as discussed above. The background section of the art in the instant specification (pp. 2-3) states that sublimation of the toner binder resin occurs in flash fixing processes and references JP 5-107805, newly cited with this rejection. The background section also states the filter in high-speed flash fusing printers becomes clogged with sublimates, indicating that it is conventional to collect sublimates in flash fusing devices (p. 3, bottom).

Thus, in addition to the reasons for holding obviousness in the last Office action, it would have been obvious to one having ordinary skill in the art at the time the invention was made to collect a sublimates of the toner binder resin because the background section states that this is a conventional feature of flash fusing processes.

With respect to the grounds of rejection previously set forth, applicants traverse the rejection because there is not sufficient motivation to use the specific toner in the specific process using flash fusing. Applicants acknowledge that JP reference toner is excellent in preventing scattering and reducing fog and applicants recognize that Schaffert teaches that



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judicious choice of flash fusing wavelength will prevent fusing of any scattered toner particles. However, this appears to applicants to arrive at no more than an obvious-to-try approach, which is not sufficient to properly lodge a § 103 rejection.

The Examiner has carefully considered these remarks and the new limitations in the claims but must maintain the rejection. The JP reference is specifically concerned with reducing fog while Schaffert teaches that flash fusing is known in the art to avoid fusing of any scattered toner particles to paper (i.e., fog in the final image). The references are clearly concerned with similar issues. The disclosure of these similar issues is sufficient to motivate the combination of flash fusing in an imaging process with the toner of the JP reference. This is not an obvious-to-try approach, as the artisan would have found it obvious to combine references that have common concerns. An additive effect would have been expected as there would be less scattered toner using the toner of the JP reference while any toner that did scatter would not have been expected to form fog if using a flash fusing system.

Claims 9, 13, 18, 19, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 901 046 in view of *Handbook of Imaging Materials* to Diamond, pp. 160-162, and further in view of *Electrophotography* to Schaffert, pp. 55-57, still further in view of JP 5-107805, and finally in view of the admitted art.

In response to this rejection as previously set forth applicants have amended the claims as discussed above. The background section of the art in the instant specification (pp. 2-3) states that sublimation of the toner binder resin occurs in flash fixing processes and references JP 5-107805, newly cited with this rejection. The background section also states the filter in high-speed flash fusing printers becomes clogged with sublimates, indicating that it is conventional to collect sublimates in flash fusing devices (p. 3, bottom).

Thus, in addition to the reasons for holding obviousness in the last Office action, it would have been obvious to one having ordinary skill in the art at the time the invention was made to collect a sublimate of the toner binder resin in flash fusing because the background section states that this is a conventional feature of flash fusing processes.

Applicants disagree with this rejection for the same reasons given above (see response p. 14). The Examiner will maintain the rejection because the supporting references and admitted art provide ample motivation to use flash fusing processes for production of fused toner images.

Claims 9, 13-15, and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohno *et al.* in US Patent 5,840,459 in view of *Handbook of Imaging Materials* to Diamond, pp. 160-162, and further in view of *Electrophotography* to Schaffert, pp. 55-57, still further in view of JP 5-107805, and finally in view of the admitted art.

In response to this rejection as previously set forth applicants have amended the claims as discussed above. The background section of the art in the instant specification (pp. 2-3) states that sublimation of the toner binder resin occurs in flash fixing processes and references JP 5-107805, newly cited with this rejection. The background section also states the filter in high-speed flash fusing printers becomes clogged with sublimate, indicating that it is conventional to collect sublimate in flash fusing devices (p. 3, bottom).

Thus, in addition to the reasons for holding obviousness in the last Office action, it would have been obvious to one having ordinary skill in the art at the time the invention was made to collect a sublimate of the toner binder resin in flash fusing because the background section states that this is a conventional feature of flash fusing processes.

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Applicants traverse this rejection for similar reasons to those given above. Additionally applicants disagree with the Examiner's position that given the small amount of components over the molecular weight range up to 1000 (as discussed previously) and the use of higher molecular weight components to produce the polyester (e.g., the bisphenol adducts), it is reasonable to expect that less than 4 parts of the toner would be components having a molecular weight below 500.

Taking the latter point first, the reference polyesters contain between 5.2 and 6.5 % of a resin component having a molecular weight of less than 1000. The reference is specifically concerned with forming higher molecular weight polyesters having a main GPC peak between 2000 and 30,000 and a subpeak or shoulder in excess of 100,000 (col. 14). There is no disclosed advantage of producing low molecular weight components, such as those below 1000 molecular weight. Further, the reference states that over plasticization occurs if the amount of toner components having a molecular weight at or below 1000 is above a certain value (col. 14, l. 55 - col. 15, l. 12). There is ample motivation to produce the polyester of Ohno with a small amount of components below 1000 molecular weight, particularly for those molecular weight far from the desired molecular weight peaks.

The artisan would also have found it obvious to use flash fusing to fix the toner of Ohno to a substrate, such as paper, because heat fixing is taught as desired in Ohno and the supporting art shows that flash fusing is a well known method of heat fixing. Specific advantages are to be gained by the flash fixing process as discussed above.

The rejection is proper and is maintained for the reasons of record and the reasons given above.

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Claims 9, 13, 18, 19, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ayaki *et al.* in US Patent 5,985,502 in view of *Handbook of Imaging Materials* to Diamond, pp. 160-162, and further in view of *Electrophotography* to Schaffert, pp. 55-57, still further in view of JP 5-107805, and finally in view of the admitted art.

In response to this rejection as previously set forth applicants have amended the claims as discussed above. The background section of the art in the instant specification (pp. 2-3) states that sublimation of the toner binder resin occurs in flash fixing processes and references JP 5-107805, newly cited with this rejection. The background section also states the filter in high-speed flash fusing printers becomes clogged with sublimates, indicating that it is conventional to collect sublimates in flash fusing devices (p. 3, bottom).

Thus, in addition to the reasons for holding obviousness in the last Office action, it would have been obvious to one having ordinary skill in the art at the time the invention was made to collect a sublimates of the toner binder resin in flash fusing because the background section states that this is a conventional feature of flash fusing processes.

Applicants disagree with this rejection for the same reasons given above concerning combinability of the references (see response p. 16). The Examiner will maintain the rejection because the supporting references and admitted art provide ample motivation to use flash fusing processes for production of fused toner images, particularly where toner fog or scattering is a concern.

### **Conclusion**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher D RoDee whose telephone number is 703 308-2465. The examiner can normally be reached on most weekdays from 6 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 703 308-2464. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872-9310 for regular communications and 703 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-0661.

cdr  
September 6, 2002

  
CHRISTOPHER RODEE  
PRIMARY EXAMINER